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P R E F A C E.

The following essays are abstracts of some of the lectures delivered in the Jaipur Literary Club by the different members. I have epitomized them, simply with the view that our student community, who have but little time to devote themselves to things other than their course, may read them in a very short time and be profited by them to some extent.

The founders of the Literary Club were some of the leading graduates of this place, of whom Mr. Gulab Chand Dhadda M. A., late Nazim of Malpura, was the chief. The meetings of the Club were held every Wednesday evening and lively discussions took place on pure literary subjects. As a rule, all political and religious subjects were scrupulously avoided. Every one, whether an inhabitant of Jaipur, or an outsider, had full liberty to express his opinion on the subject under debate. The society was a grand success, for the flower of the literary men of Jaipur assembled on

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the spot and took a deep interest in the conduct of its affairs. That it was a source of great good to the educated circle of this place is evident from the fact that many of its members are now holding responsible and honorable situations. For instance, R. N. Ratnoo Esq., is now member of the Kishengarh State Council, Pandit Hari Narain B. A. is Jaipur Durbar Vakil at the Residency, Pandit Din Dayal Tewari is magistrate of the Jaipur state, Pandit Gopi Nath Joshi, a most energetic speaker, is Head Master of the Chandpole school, and Pandit Suraj Narain M. A. is tutor and guardian to the Raja Sahib of Khetri. Among the other leading members were Doctor Mayia Singh, Hospital Assistant at Sikar, Pandit Ram Narain, forest-ranger in the Gawalior State, Pandit Badri Narain B. A. Head clerk, Medical Department, Pandit Lachmi Narain B. A., Head clerk at Mount Abu, Moulvi Aubid Hussien Vakil, Lalla Chandu Lal, Sub-overseer at Bursana, Pandit Punna Lal B. A., Head Clerk, Sanitation Department, Mr. Kuberdan Ratnoo, Diwan of Sikar, and Pandit Hari Ballabh,

private tutor to the Thakur Sahib of Dundlode. It was a happy thing that R. N. Ratnoo Esq., undertook a voyage to Europe and on his return, the Club presented him with an Address which ran as follows:—

“Hail ! Mr. Ratnoo ! Welcome back to your native land, O ! Flower of The Jaipur Literary Club ! How anxiously did our curious imagination trace your footsteps to the far, far Western worlds ! How impatiently did we yearn for the hour of your safe return from your perilous voyages and travels, and for being amongst us once more ! You have crossed oceans, seas and gulfs, mountains, valleys and jungles, with a fearless and an unflinching heart ! You have evinced an uncommon strength of will, force of energy, and an insatiable thirst after knowledge ! You have drunk at the very fountain-head of light whence the beams of Western civilization stream forth in silver colors ! You have come in contact with men whose powerful influence has the magic effect of generating sublimer and nobler thoughts ! You have gone through a

practical course of study by observing the home life of the enlightened British nation, by visiting the centres of their arts and manufactures, and by studying the manners and customs of many a European Country ! You have thus shewn that the germs of the spirit of enterprise which once characterized Bharatkund have not altogether died out of this land ! You have thus proved that our mother country, India, the classic land of the Ramayan and the Mahabharata, still preserves the fire of its departed glory and greatness ! Your bold step in crossing the waters notwithstanding the common adverse opinion regarding the same, has revealed the great truth that under the benign patronage of His Highness the Maharaja Sahib, in the sunshine of whose parental care we have been making rapid strides towards civilization,—this beautiful city of Jaipur has not remained behind in progressive improvement ! Our sensations of joy know no bounds to-day, when we reflect that an invaluable gem like yourself is once more in our midst ! We are deluged with oceans

of pleasurable feelings on this auspicious occasion of your happy return ! Allow us, Mr. Ratnoo, to receive you with open arms as our dear affectionate brother, and rend the air at this golden hour by exclaiming at the top of our voice, the joyful Hurrah ! the happy Hurrah ! O Hurrah ! Hurrah ! at your safe return from England ! ”

I am sorry to say that the meetings of the Club have not been held for a long time, as a great many of the members who were the life and soul of the Club, went to different distant places in the performance of their duties. The rising generation of Jaipur pant for an institution of this kind, and if it please God, it may revive once more.

I do not think it out of place to say here that my most cordial thanks are due to Rev. G. Macalister D. D., for the great trouble he took in going over these essays. His kind-heartedness, his cheerful readiness to help those who stand in need of his help, his deep learning and sweetness of temper, are well-known throughout this locality.

In conclusion, I have only to add that the Literary Club does not know how to express its heartfelt gratitude to the Jaipur Durbar for maintaining a splendid educational establishment,—an establishment that, under the watchful eye of the most enthusiastic and able Principal, has spread a lustre over the land, and that led to the spontaneous production of the Club itself, whose object was to broaden the views of its members and elevate their thoughts, as well as to bring home to their hearts the majesty of their duties below. May it please the Divine Creator, in His infinite mercy, to pour forth upon His Highness, with an unstinted hand, His choicest and noblest blessings, by crowning him for ever with all prosperity and success. I ! ! !

RAM KUMAR GHIYA,

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JAIPUR.

1.—SELF-HELP.

Self-help means the use of one's own energies to gain one's ends, with as little dependence on others as possible. As our heavenly Father has conferred upon us powers both physical and mental, by which we can do what we please, we are bound to exercise them to our best, so that we may be able to provide for our physical necessities, to improve in knowledge and to act and behave so as to prove a blessing to our fellow-brethren. So long as we are but passive spectators on the stage of life, so long as we are idle and indolent, all our hopes of success must be mere chimeras, mere building castles in the air. Some of our young men will perhaps come forward and say that they are not gifted with what is called genius and therefore they can not do anything worth the name. Nothing can be more absurd than cherishing an idea of this kind. For, there are innumerable examples which plainly show that simple means

and the exercise of ordinary faculties can produce the greatest results. Thomas Carlyle maintains that labor judiciously and continuously applied becomes genius in itself. Sir Isac Newton, when asked how he had made those grand discoveries which made him illustrious throughout the world, said, "by always thinking unto them." George Stephensen, in the course of a lecture to the students of a certain College, said to his youthful audience, 'Young men, if you want to make a way for yourself in this world, do as I have done,—persevere.' One great writer says that genius is nothing but the power of making efforts. Another is of opinion that genius is the power of lighting one's own fire. A third holds that labor and perseverance form the truest genius. In short, there is no limit to such quotations. The poorest possible men have, by dint of steady application, helped themselves to the highest tabernacle of fame. Such were Christopher Columbus, the son of a Wool-Comber, Sir Richard Arkwright, the barber, John Flaxman, the artist, Shankeracharya;

Kabir, Raidas etc. etc. Patience and perseverance must be combined with hope, cheerfulness, energy and will. It is energy, it is force of purpose, it is strong will, that forms the key-stone of success. A French Officer, while walking to and fro outside his apartment, daily used to exclaim, "I will be a marshal of France and a great general." He did attain to that high station in course of time. A holy man's constant remark was "Whatever you wish to be, that you are, if you have a resolute heart." Some call fortune blind, but fortune is not so blind as men are, for it always favors the brave, as winds and waves are always on the side of the best navigators. Man is justly said to be the lord of the animal Creation. The Almighty has bestowed upon him the unfathomable ocean of intellect. If he but devote himself to searching enquiries in this soundless main, he is sure to find out therein vast hoards of invaluable blessings. One and all of us are therefore bound to shake off our lethargy and launch forth with indomitable hearts into the fields of action,

so that we may be able to do something in the way of elevating our own position as well as that of our fellow-men. We can make our times better if we bestir ourselves, as poor Richard says. Poverty and low birth can never impede the progress of a steady worker. In conclusion, let us grave deep upon our hearts the saying of Lord Beaconsfield, "Success in overcoming obstacles as in conquering armies, depends on this great law of mechanics,—the greatest amount of force at your command concentrated on a given point."—

The true sentiments of the self-helper are also well expressed by the following rhymes:—

If before you mountains rise,

Go ahead.

Scale them, certainly you can;
Let them proudly dare the skies,
What are mountains to a man?

Go ahead.

Though fierce waters round you dash,

Go ahead.

Let no hardship baffle you;
Though the heavens roar and flash,
Still undaunted, firm and true,

Go ahead.

Throw yourself completely in,
Conscience shaping all your laws,
Manfully through thick and thin.

Go ahead.

Do not ask who'll go with you

Go ahead.

Numbers! spurn the coward's plea;
If there be but one or two,
Single-handed though it be,

Go ahead.

2.—EDUCATION.

The word education is derived from the Latin *educere*, to lead. It means a leading out of our faculties to cultivation and development. Practically speaking, it is of four kinds, viz. physical, moral, industrial or technical and intellectual. Physical education must precede all others, for it is the first condition of man's success in life. The case of those who sacrifice physical well-being to intellectual culture is sadly deplorable. In the keen competition of modern life, thousands break down prematurely under a heavy pressure of brain work. If, therefore, the sanitation rules be imprinted upon our hearts while yet in tender years, we shall be exempt from many diseases to which we are often exposed from our ignorance of those laws. If we have a strong body, any amount of mental exertion on our part will not in any way tell upon our constitution. A sound mind will go along with a sound body.

Next comes moral education. It teaches us our duties towards God and man. It leads us to be upright in act and true in thought and word, which is the epitome of all the purposes for which education exists. It teaches us how to live well in a family and to perform, with a becoming grace, the duties of a son, a husband and a father, in the different stages of our earthly career. It inculcates upon us lessons of honesty and sincerity in all our dealings with society. In short, it constitutes one of the most important elements in the education of young men.

INDUSTRIAL EDUCATION:—Its main object is to enable us to stand upon our feet and be independent. Our ancestral occupations, whatever they may be, must always have a great attraction for us. We ought to initiate ourselves into them and be adepts in them, so that we may not be a burden upon others for our daily bread. Every occupation, if carefully attended to, will furnish an ample scope for the exercise of one's powers, however

extraordinary they may be. Every line of business will open a vast field of enquiry for a searching eye, so that, from a small beginning, one will gradually become great, if he has it in him to rise. He may then add knowledge to his previous acquisitions, as much as he can. He may raise a superstructure of intellectual culture over what he has gained before. But he should be careful to consider that the ocean of knowledge is too deep for him. Any attempts after general knowledge will make him a Jack of all trades and master of none. A command over all languages, all histories, and all science, is denied to frail humanity. The best course, therefore, is to choose, out of the multifarious walks of life, one that is best suited to his capacities and to stick to it with a determined heart. His best energies should be devoted to that one grand object of his life. In such a case, success will be as certain as that the day should follow night and the stars shine according to their laws and order.

In these modern times, education is on every body's lips. Its value can not be described in words. If we were to subtract it from the progress which man has made from the remotest period of creation down to the present date, the remainder will be the primeval ages, when caves formed the only abode of our ancestors, leaves and bark of trees their only covering and flesh and fruits their only means of subsistence. All the numberless comforts and luxuries that we enjoy at present are mostly nothing but the outcome of education. It forms the treasure house of the collected wisdom of ages. It affects all the concerns of man in his career below. It gives a form and shape to the whole series of activities of which life is composed. It is the unfailing source of virtue, wisdom and religious beatitude. It is a sure passport to the everlasting happiness of heaven. Nothing, in short, is of such transcendent importance in this world as education and knowledge.

3.—HOME EDUCATION.

Home school and church are the three great seminaries of instruction. Home is the epitome of all three. The influence of good parents is the main factor in the formation of character. Home is a nursery where every human being is brought up and instructed. It is the most influential school for a child. The opinions implanted in the minds of children in private life afterwards become the public opinion of the world. The mind is most open to impressions in childhood and ready to be kindled by the first sparks that fall into it. The great duty of parents, therefore, is to give their children a proper home education. The training of children mainly depends upon mothers. Home is the mother's domain, where she exercises entire control. Children look up to her for everything. They receive their first lessons from her. A mother's face is the child's first lesson-book. She is an example and a model constantly before his eyes.

The most durable impress left on the brow of manhood is the impress of the mother's hand. Mr. Emerson says "A sufficient measure of civilization is the influence of good women." Man is the brain and woman the heart of humanity. He is its judgment, she its feeling. He directs the intellect, she cultivates the feelings. We arrive at virtue chiefly through her. Napoleon Bonaparte, in obedience to his mother's advice, trained up females, in order that they might know how to bring up their children, and so he used to say that the future good or bad conduct of a child depended entirely on the mother. Woman may perhaps be as highly educated as man. Her culture will add to her usefulness. Where she is debased, society is debased. If she is enlightened and is morally pure, society must be proportionately elevated. To instruct woman is to instruct man. To elevate her character is to raise his own. Nations are but the outcomes of homes and people of mothers. One of the surest tests of the civilization of a people is the state of its women. The present century is full of loud demands for

female education. This topic now engrosses the attention of the whole civilized world, for nature writes on the heart of man through woman. So, we ought to prepare a congenial soil at home by imparting a sufficient amount of education to our female companions. We shall never be able to hold our position in the modern march of intellect and in the shifting scenes of an advancing society, unless we educate our better halves. Sir William Jones, Sir Walter Scott, Napoleon Bonaparte and Lord Macaulay, rose to the position they occupied because they were under the surveillance of good mothers.

4.—TRAINING OF CHILDREN.

The great hunt in life is after happiness, but it is not an easy task to secure it. Cræsus, king of Lydia, thought himself to be the happiest of mankind. He tried to extort a confession from Solon to that effect, but the latter said that no man could be pronounced happy till his end was seen. So, perfect happiness is very difficult to be obtained on this earth. However, if a man were to lead an honest moral life, there is but little doubt that he will be a happy man. Good character forms the essence of happiness. Hence the chief aim and object of all should be to shape the ideas and mould the habits of children in such a manner as to enable them to lead a safe and prosperous career. It is plain that surroundings command much influence even upon the vegetable creation, as is evident from grafts producing the best fruits. They exercise the greatest influence upon man, so much so that sages, after years of vast and varied experi-

ence, have come to the conclusion that man is only a bundle of circumstances. The wolf-boy, in the Orphanage Asylum at Secundra, who was accidentally picked up by a she-wolf and suckled by her for sometime, imbibed many of the habits of that beast of prey. This shews that circumstances and surroundings go a great way in forming a man's character. It is therefore incumbent on us to place our children in as healthy and refined a circle as possible. But before we attempt to do so, we must first train ourselves. Our example will teach our children better than precept. We know that women exercise the greatest influence upon their children. It was the mother of Lord Macaulay that enabled him to climb up the hill of fame. One day when the boy prodigy felt disinclined to go to school on account of foul weather, she said, "No, Tom, you shall go, never mind if it rains cats and dogs." Thus it is that if our home atmosphere be excellent, our children will imbibe the same. Moral and religious lessons, habits of plain clothing and simple diet, the value of integrity and chastity,

must be so impressed upon their hearts as to be indelible for ever. Great care is necessary in rearing infants. Nurses, if at all engaged, must be proper characters. Much stress is to be laid on regularity in meals and nutritive food. Mr. Willard says that barley ground coarsely and boiled in skim milk along with its husks, is calculated to improve the health of children. Dr. S. W. Mitchil is of opinion that skim milk in itself is very nourishing to the young. Both boys and girls should be imparted the blessings of education. Female teachers of approved probity should be appointed for the instruction of the girls. Let Sanskrit be taught in the beginning, and multiplication tables be got by heart. Children should be initiated into as many of the 64 branches of learning as possible *i. e.* painting, drawing, music, swimming etc. etc. Girls ought to be made well up in sewing, cooking and an economical household management, in addition to a little prattling of the English language. Familiarity with servants, appropriation of separate rooms, keeping clothes, ornaments and cash with

themselves, are improper things for girls. Singing obscene songs, joining in dinner parties and picnics in public places, over-indulgence in costly garments and luxuries of the table, are infallible precursors of the hopeless ruin of girls. Equal attention should be paid to our boys. They must be made strong, physically, religiously, morally and intellectually, so that a spotless character and a glorious career may be secured with ease.

The poet has well said:—

Our most important are our earliest years,
 The mind impressible and soft, with ease,
 Imbibes and copies what she hears and sees,
 And through life's labyrinth holds fast the clue
 That education gives her false or true.

5.—SELF-MADE MEN.

Self-made men were such personages as were very poor and obscure in their early years, but who scaled the hill of fame by means of their own industry and perseverance. History is full of the golden achievements of such blessed heroes. They have proved by their example that, without the least shadow of a doubt, where there is a will, there is a way. They have plainly shewn that patience and perseverance do overcome mountains in all walks of life. The great Napolean Bonaparte, who was the son of a common Corsican pleader, attained to the exalted position he enjoyed by force of his indomitable energy and persistence. He always used to say that 'Ifs and buts are found only in the dictionary of fools.' 'Impossibilities! I trample upon impossibilities!' cried Mirabeau. "Impossible! talk not to me of that blockhead of a word," says a great writer. Christopher Columbus was the son of a wool-comber and we all know how he changed

the face of the world by his grand discovery of the Americas. George Stephensen, the inventor of our railways, was, when eight years old, engaged by a widow to tend her cattle on 2d a day. This was his first start in life. Sometime after, he was appointed as an assistant fire-man and then a fire-man. He observed the engines with the closest attention, studied their different parts and became an expert in the art. At last, he invented the machinery by which steel horses run with the swift-ness of wind upon railroads. His fame spread far and wide. He was justly called the railway king, and was the architect of his own fortune. From 2d a day, he came to be the companion of the wise, the worthy and the wealthy, and was one of the brightest ornaments of his age and country. The well-known merchant prince, named Mr. Lindsay, also deserves our notice. He was left as an orphan in his sixth year and so he wandered about in the streets of London for 7 weeks, begging for bread from door to door. But he possessed a resolute heart. He used to say that when others rose to

opulence and power by dint of self-exertion, why should not he. Being fond of a sea-faring life, he first got the appointment of being a cabin boy, then of a second mate and mate and lastly, that of the commander of a vessel. Subsequently, he settled in London and by his unremitting diligence and frugality, became one of the greatest merchants of the metropolis. He then turned his attention to politics and soon became a member of Parliament. His life is all full of encouragement and instruction. It was only self-reliance and self-exertion that enabled him to rise to the prominent position to which he had attained.

The next worthy deserving our attention is Alexander Murray. He was one of eight children. They were shepherds. But young Alexander had no liking for that calling. He had a passion for books. He was very poor and so he accepted the offer of being a private tutor to the boys of a certain farmer. He is said to have attended school for some thirteen months only, scattered over a

period of eight years. But by self-study, he mastered French, Latin, Greek, Hebrew etc. and was appointed as the professor of Oriental languages in an English University. His extraordinary achievements enabled him to become a worthy of great renown.

History teems with the names of such heroes. They were not born great, nor had greatness thrust upon them by a stroke of fortune, but they achieved it with the might of their right arm. The secret of their success lay in untiring industry. "Work is worship" is a well-known saying of the old monks. At a working man's door, hunger looks in but dare not enter, as poor Richard says. Man is a moral agent. He is not like a straw serving to mark the direction of the current, but he possesses the power of a strong swimmer that can baffle the force of the stream. He must therefore stick to unflinching industry, if he wants to lead a noble career below.

8.—MONEY.

The word money is derived from Juno moneta, a temple in which money was originally coined. In the primitive ages, mankind lived in jungles and subsisted upon flesh, fruits etc. They were as simple and rude as the aborigines of America at the time when Columbus first landed on those distant shores. This great discoverer says that the wild American tribes knew not mine and thine, which are in fact the seeds of all mischief. As the human race began to multiply, division of labor naturally arose, which gave rise to barter, or the act of changing one article for another. For instance, if a farmer wanted a pair of shoes, he went to a shoe-maker, gave him a certain quantity of corn and in return thereof, took from him the desired object. But if the shoe-maker wanted no corn, the agriculturist had to search for some other person who stood in need of that commodity. This system being thus found to be very defective,

men began to employ cattle as the common instruments of commerce. The word pecuniary has its root pecus, meaning cattle, which shows that in the ruder stages of society, oxen and sheep formed the chief medium of exchange. Homer writes that the sword of Diomedes, a hero, cost nine oxen, while that of Glancus, cost a hundred oxen. But in this course too, a customer had to buy things valued at whole animals, neither more nor less, and so he was put to great inconvenience and trouble. Different countries, then, began to use different articles for conducting business matters. Salt was used in Abyssinia, dried cod in Newfoundland, tobacco in Virginia, a species of shells in some parts of the coast of India, sugar in the West India Islands, hides in some other countries and so forth. As time wore on, metallic currency was found to be the most suitable thing for this purpose. There were four main qualities in the metal which led to its adoption, viz. (1) that it was durable and consequently much less liable to damage, (2) that it could be divided into any number of parts, (3) that

it could be re-united by fusion, (4) that it was portable. At the outset, the Spartans used iron, the Romans copper, and gold and silver some more civilized nations of the earth. These metals were used in bars. There was nothing like coined money at the time. This occasioned two difficulties, viz. weighing and assaying. Experience soon led the people to devise coinage, which set aside all obstacles in the way of free exchange. Large quantities of gold and silver were procured from the mines of the Ural mountains, Australia, California etc. and bars of gold and silver, termed bullion, were prepared, and from these coins were made and are yet made in the mints. Hence it is plain that the coined money now in use is the result of the experience of thousands of years. Money being, so to say, the cynosure of the public eye in this world, we should take care lest we should be moved by an inordinate desire to gain it by any means whatever, fair or foul. We know for certain that friends are plenty when the purse is full, but we should rather get on without friends than be loose and un-

principled millionaires. True happiness does not consist in amassing hoard after hoard, but in the exercise of virtue, goodness and honesty. Sir Walter Scott, when on his death-bed, said to his son-in-law, "My dear, be virtuous, be religious, be a good man, for nothing else will give you any comfort when you come to lie here." Hence if we want to be truly blessed here as well as hereafter, let us be virtuous and pure at all costs and hazards.



7.—ANCIENT GREECE.

Greece is nearly forty centuries old. Its area never exceeded 400 miles by 150. Modern Greece is only the southern portion of ancient Greece. It may be divided into three parts viz. Greece Proper, Peninsular Greece and the islands under its control. It is one of the most mountainous countries of Europe. In the north is mount Oæta, and lower down lies mount Parnassus, said to be the residence of the nine muses that presided over the fine arts. The town of Delphi, which contained the celebrated temple of Apollo, lay on the south side of mount Parnassus. Still lower down was Boetia, with its capital Thebes, and Attica whose chief town was Athens. The plain of Olympia was situated in the north-west. There was in the island of Antiparas a marvellous grotto or subterraneous cave, which when lighted with lamps, appeared like a vast hall, shining like silver. In very old times, the whole of Europe was inhabited by wandering savages. It was Greece

where the first settlers arrived. In after times, they spread over the whole continent. Cecrops, the Egyptian, settled in Athens and Cadmus, the Phoenician, founded Thebes. The latter taught the alphabet to the people and introduced among them the use of metals. Hercules, Theseus, Minias etc. were some of the most renowned heroes of ancient Greece. They are said to have possessed superhuman powers. The temple of Apollo at Delphi, the Amphictyonic Council, and the Olympic games, deserve a special mention. The Greeks from far and near used to visit that famous temple to ask for salutary advice from the god, in times of danger and difficulty. The managers of the shrine were very clever men, as they used to give good pieces of advice to their votaries in equivocal words, pretended to have been communicated to them by the god. These holy predictions were called the oracles of Apollo. The Amphictyonic Council was composed of representatives from twelve different states of Greece. They convened their meetings in the above-named temple and besides having the

management of the temple in their hands, promulgated the first maxims of the law of nations. The Olympic games were celebrated annually in the plain of Olympia, where people from 18 different states of Greece flocked together to contend for the prizes. Wrestling, racing, gymnastics and many other athletic sports were exercised in that sacred spot. Athens, Sparta and Thebes, were the leading principalities in the country. The well-known law-givers of Athens were Draco and Solon. Draco's laws were very strict, whereas those of Solon were milder. The other worthies of ancient Greece were Pisistratus who gathered the Homeric poems and also founded a library, Miltiades who routed the Persians though more than ten-fold in number, and Pericles, the good, in whose age, poetry and oratory attained perfection. The great law-giver of Sparta was the illustrious Lycurgus. He was the son of one of the two kings of Sparta. Seeing his country in a very backward state of civilization, he left Sparta, made his way to the then great centres of learning and being wonderfully improved;

retraced his steps to his mother country. He enacted a code of laws for his countrymen. Some of the Spartans cherished views quite contrary to what he advocated, so they fell upon him and were so brutal as to deprive him of one of his eyes. But he was still as undaunted as ever. Fearing lest his countrymen should give up obedience to his laws in future, he left Sparta, binding the people by an oath to observe his laws at least till his return. But he had made up his mind never to go back, but die in distant lands, so that the Spartans might continue to abide by his regulations for ever. The most conspicuous figures in Thebes were Pelopidas and Epaminandas. The latter was an extraordinary character, physically, morally, as well as intellectually.

Great simplicity prevailed in Greece in its heroic ages. Even the kings and princes never thought it derogatory to their honor to be skilful in the manual arts. Ladies of high rank used to spin, weave, fetch water from the wells and do the

like household duties. Commerce was at a very low ebb. Piracy and robbery were much in vogue. The Grecians abhorred drinking and polygamy. Every boy was taken away from his parents while seven years of age and trained as a soldier under the inspection of the State. Men below 30 and women under 20 were never allowed to marry. The ladies could not eat with their husbands. Modern Greece is of but little importance. The Greeks rebelled against the Turks in 1821 and through the interference of some European powers, were able to recover their independence. In 1863 A. D. the second son of the king of Denmark sat on the throne of Greece, under the name of George I. It is Greece that brought the western mind in contact with the eastern, and hence has arisen the proud fabric of European sciences that have done immense good to the whole human race.

8.—DUTIES OF MASTERS AND SERVANTS


The duties of a master to his servant may be summed up as follow:—

(1) To repose full confidence in him and not always to entertain a suspicion against his character. (2) To grant him certain discretionary powers. An agent at Calcutta or Bombay cannot transact business with success unless he is given the liberty to act as time and circumstances require. (3) To allow him a handsome salary, so that he may be able to defray all his necessary expenses and may not suffer from pecuniary embarrassments. (4) To treat him with love and kindness. Cases have occurred when servants have even sacrificed their lives for saving those of their kind masters and mistresses. (5) The selection of a servant must be made with great care, for his conduct exercises much influence upon the members of the master's family. (6) Too much familiarity on the part of a master must always be

avoided, as it never fails in breeding contempt. (7) No officials should at all times be open with their subordinate clerks, or be guided by their advice, however experienced the latter be. If they do that, work will be spoiled. (8) A master's watching eye is also necessary to ensure success. (9) Undue reserve on the part of a master and the giving of unreasonable commands, are very objectionable and should never be had recourse to. (10) A master ought not to dishearten his servant in any way, but he should encourage him by increments in his salary as opportunities occur.

The duties of a servant towards his master may be briefly enumerated as under:— (1) To serve with conscientiousness, so that the master may regard him as deserving of the confidence reposed in him. (2) To use his discretionary powers with strict uprightness and never to behave amiss by availing himself of the master's nobility of disposition. (3) To obey the commands of his master with a cheerful readiness. It is improper on the

part of a servant to look morose or sullen when requested to attend to his duties. (4) Not to be an eye-servant. To be busy in his work so long as the master's eyes are upon him and then to consult rest, savors of gross meanness and is utterly inexcusable. He must never care whether the master sees him or not, but go on doing his duty with a remarkable honesty of purpose. (5) A servant should never be a mean flatterer, but should always have an idea of self-respect, though within proper limits. (6) Servants must always be obedient, trustworthy and faithful, always behaving decently towards their master and performing the duty assigned to them as if it were their own work.



9.—A TRUE FRIEND.

A true friend is one who pays no consideration to his wealth, rank or power, or to any kind of advantage he may be enjoying on earth, but comes to his hearty companion as a brother, with two bodies and one mind, so to say, and is ready to help him in every possible way, caring not even for his life. A faithful friend is the medicine of life and one who has found him, has found an untold treasure. Bacon is of opinion that there is no true friendship in this world, while Cicero's words are that they seem to take away the sun from our globe who withdraw friendship from life. Mr. Emerson observes that our present friendships are formed of the delicacies of the table, instead of the tough fibre of the human heart. We can have plenty of summer friends in every quarter, hovering all about us when the purse is full, but nowhere to be

met with when it is empty. Jack Spindle, of whom Oliver Goldsmith speaks in the Bee, had a host of friends while he was well-off, but not a single one when his resources were exhausted. The same was the case with Timon, a Lord of Athens. The great Julius Cæsar of Rome had also a friend for himself. It was Brutus. Though Cæsar treated his protege with the utmost kindness, promoted him to the highest posts in the republic, but in the end, Brutus turned out a treacherous character, for he was one of the conspirators that put an end to his life. Hence, it is very difficult to find a true friend on earth. The requisites of ordinary friendship are, sincerity, virtue, unselfishness, equality in age, wealth and power, and similarity of mental bent. Unequal friendships are always to be avoided, for they are generally dangerous to the weaker side, as is evident from the well-known fable of the Dwarf and the Giant. In their several encounters with their adversaries, the poor dwarf lost his eye, his leg and his arm, while the giant did not suffer the slightest injury or hurt.

To conclude:—Friendship doubles our joys
and divides our miseries into halves, but to find a
true friend on earth, is something next to impossible.
The poet has well said:—

What is friendship but a name,
A charm that lulls to sleep,
A shade that follows wealth and fame
But leaves the wretch to weep?



10.—PROGRES

The word progress is derived from Latin pro, forward and gradus, a step. It is a stepping forward. In modern times, progress is the order of the day. Every one says that we are going forward, but in what direction and in what particulars, is the question. Progress, in another word, is change. Now, change is at every moment going on in all parts of this stupendous creation. The heavenly bodies are constantly changing their position. The earth on which we live is revolving with a marvellous velocity. The mountains increase and decrease and so do the rivers, lakes, seas, oceans, the vegetable, the mineral and the animal kingdoms. Our very bodies are not to-day what they were yesterday. In short, nothing in the immense creation of God is stationary, but is subject to a constant revolution. But progress is a change for the better. Our present social organization is on a far nobler footing than before. Arts

have multiplied and flourished, science has made rapid strides, civilization has ushered into the world with a dazzling effulgence, and ignorance, error and superstition, are gradually dying out of the land. Arbitrary violence has ceased. Force has been disenthroned, and its place is now filled by intelligence. Swords are beaten into ploughshares. New discoveries and inventions are being made every hour. A new and happy era has dawned forth in the history of man. Railways, telegrams, post offices, printing offices, navigation and commerce, have quite altered the destinies of nations. But we must take care lest the rise of industry make greed of gain the ruling passion of our mind, lest self-interest become the regulating principle of our conduct, and lest education, talents and experience, multiply our powers of doing mischief. Let us, therefore, keep a constant eye to spiritual progress also, so that knowledge, virtue and wisdom, may lead us always to remember our Heavenly Father and to realize His Divine presence while we are yet on earth.

11.—HUMAN ANATOMY AND PHYSIOLOGY.

Anatomy, in its most extended sense, is the science that teaches us to ascertain and make known the structure of organized bodies. It is divided into vegetable anatomy, the anatomy of lower animals and human anatomy. This latter is divided into two branches, the first treating of the nature and general properties of the component textures of the body, and the second of its several organs, members and regions, describing the outer form and internal structure of the parts, their relative situation and mutual connection, and the successive conditions which they present in the progress of their formation or development.

Human physiology is the science which treats of the life of man, of the way in which he lives and moves and has his being, how he attains maturity and how he dies. The essentials of life are, birth, growth, development, decline, and death. Birth means separation from a parent with a greater

or less power of independent existence as a living being. Growth is the inherent power of increasing in size and is not the property of living beings only. Development is as constant an accompaniment of life as growth. This term is used to indicate that change to which before maturity, all living beings are constantly subject and by which they are made more and more capable of performing their several functions. No very accurate limit can be drawn between the end of development and the beginning of decline. The two processes may often be seen together in the same individual. But after a time, all parts alike share in the tendency to degeneration and this is at length succeeded by death, which is not a violent interruption of the course of life, but the fulfilment of a purpose in view from the commencement.

Now, as to the chemical composition of the human body, it may be said that of the sixty-three or more elements of which all known matter is composed, nearly one-fourth are present in the human frame. Some of these are:—Oxygen, hydrogen,

nitrogen, carbon, sulphur, phosphorus, silicon, chlorine, fluorine, potassium, sodium etc. etc. As the bones, the chest, the heart and blood, form the essentials of the body, let us be content at present by dwelling upon them to a certain length. The bones are composed of earthy and animal matter in the proportion of about 67 per cent of the former to 33 per cent of the latter. There are 8 bones in the head, in the face 14, in the vertebral column 33, in the upper limbs 64, in the lower limbs 62, in the vault of the chest 26, 12 on each side of the chest and 2 in front of the chest called sternum. They form a frame-work for the moulding and support of the soft parts of the body.

The chest or thorax and the abdomen or belly are the two chief cavities of the body. The chest is almost filled with the lungs and heart, the latter being fitted in, so to speak, between the two lungs. The abdomen is the largest cavity in the body. The heart is situated in the thorax between the two lungs. It is a hollow muscular organ having the form of a blunt cone. Its weight varies from

7 to 10 oz. According to Dr. Reid, its weight in the adult male is 11 oz. and in the female 9 oz., whilst according to Dr. Peacock, it weighs $9\frac{3}{4}$ oz. in males against 9 in females. The heart of a healthy adult man beats from 70 to 75 times a minute. It is the central organ of the circulation of blood, which is florid red in the arteries but dark purple in the veins. Blood is a little heavier than water. It has a saltish taste and a peculiar faint odour. The weight of blood is as 1 : 8 or 10, as compared with the body. Its uses are many.—(1) The various parts of the body extract from it the materials necessary for their nutrition and maintenance. (2) It conveys oxygen to the several tissues which may need it. (3) It brings refuse matter from all parts and conveys them to places whence they may be discharged. (4) It warms and moistens all parts of the body.

As the subject is a scientific one and requires a master mind to be dealt with at full length and as our short space is meant only to have something of everything, we conclude here. Dr. Maiya Singh.

12.—THE CIRCULATION OF BLOOD.



There are two sorts of muscular fibrous tubes by means of which blood circulates throughout the body. One of them is called the artery and the other the vein. The function of the arteries is that they carry pure blood from the heart to all the different parts of the body. The function of the veins is to bring back to the heart the impure blood from all parts of the body. The circulation begins from a large fleshy hollow lump of muscular fibrous tissue called the heart, which is placed horizontally on the left side of the chest in front of and contiguous with the inner surface of the left lung and between the 2nd and the 6th ribs. It is about 5 inches in length and $2\frac{1}{2}$ inches in breadth. It has its pointed apex downwards and the broad base upwards. It resembles the closed fist of a man. It is lined on the outer side by a membrane

called pericardium. It is divided into two parts, viz., right and left, by a muscular septum. The right one is divided into two compartments, the upper of which is called the auricle, while the lower is called the ventricle. The same is the case on the left side. The right auricle communicates with the right ventricle by means of an opening, called the right auriculo-ventricular opening, guarded by a valve called the Tricuspid. The left auricle communicates with the left ventricle by means of an opening called the left auriculo-ventricular opening, which is also guarded by a valve called the Bicuspid. These valves act as a window when there is contraction of the ventricles, not allowing the backward flow of blood into the auricles. The food we take in goes into the stomach where it is changed into chyle and after that it passes into the intestine where it is changed into chyme, the liquid of which is absorbed by the lacteals which open there and through the lacteals it goes through the Thoracic duct into that part of the vein where the jugular and the left subclavian veins meet toge-

ther, whence it passes into the superior venacava and thence into the right auricle. Here also, the inferior venacava pours its contents after bringing them from the lower extremity of the body. Now, when the auricle is full, it begins to contract, and the blood passes into the right ventricle, and when the ventricle is full, it contracts and sends the blood through the pulmonary arteries into the lungs, where, coming in contact with the pure air we breathe in; it gets purified and then passes through the pulmonary veins into the left auricle. When this is full, it sends the blood through the auriculo-ventricular opening into the left ventricle, and thence into the main trunk called aorta, by means of which it passes through several branches into all parts of the body, and then coming in very minute branches called capillaries, it passes into the veins and through the superior and inferior venacavæ it again comes into the left auricle and thus the same process goes on again and again. The heart is a very important organ in the body. The arteries convey blood from the heart to the different parts of the body,

while the veins bring back dark blood to the heart for purification. The capillaries connect the arteries with the veins. In short, the circulation of blood is one of the strangest phenomena in the microcosm of the human frame.



13.—ENVY.



The word envy is derived from *invidere*, to look askance at, to look with enmity. Hence it signifies discontent or mortification at the sight of another's superiority or success. Emulation is a noble desire to work as another has done, to obtain some deserved object. We are jealous of one whom we suspect of aiming to deprive us of what is our own or what we dearly prize. We never feel envious of strangers but only of our relations, friends, neighbours or acquaintances, *i. e.* of those only that form the circle in which we move, whose rise enables them to afford us help in time of need, whose ruin is indirectly our own and whose happiness is our comfort. Envy often works like a double-edged weapon, for the envious and sometimes the envied both suffer from it. It burns a man alive. It is the daughter of poverty and the

sister of avarice. It is an artificial evil, not natural. It is self-created and self-inflicted and therefore avoidable. We must always consider that the rise of our friend is either by fortune or by his own industry. If it is by fortune, it is the dispensation of the Almighty and so, nothing can be more foolish than to murmur at the Divine will. If it is the result of industry, he has a right to the prize, as he has worked hard for it. We generally compare ourselves with those that are superior to us and hence suffer from the stings of this evil feeling. We should rather compare our condition with that of our inferiors, so that we may see that we are in a far better and happier condition. Envy is an ignoble trait in human character. It always produces poisonous effects. Raja Jai Chand envied Prithvi Raj, sent for Bin Sam, the result of which was that India fell into the hands of the Mohamadan conquerors. Envy rages most among females. The husbands are after all obliged to hear their consorts. The consequence is the separation of families and the ruin of brothers from

litigation. If we possess calm and contented minds, we ought to look to the bright side of our circumstances rather than to the dark. If we stick to our duty and exercise a little prudence, there is not the least shadow of a doubt that we shall be exempt from this baneful feeling, and be loving and affectionate unto all our fellow-creatures.



14—ETIQUETTE.

Etiquette signifies a body of rules to guide our behavior in polished society. No definite rules can be laid down on this subject, as the tastes and habits of one nation are often different from those of another. Consequently, the etiquette of one people may be quite at variance with that of another. However, some of the rules bearing on this head may be stated as follow:—

While in company, our bodies must be neat and clean; finger-nails short, and dress suited to our rank and position. Gaudiness or foppishness is always to be avoided. We should also take care not to scratch our teeth or nose. Yawning should be given up, if possible, if not, the hand should be placed before the mouth at that time. Breaking into loud roars of laughter is a contemptible thing, as also a loud blowing of the nose. Whisperings are offensive to company. While sitting on a chair

in public, the legs should not be placed aloft upon it, nor should they be spread wide apart. When two persons are talking with each other, a third should not go to them except by special permission. When two or more persons pay a visit to some gentleman, one only may talk with him at a time. Nothing can be ruder than to obtrude opinions. There should be no interchange of salutation between two persons when one is on one side of the street and another far away on the other. In the company of an Englishman, never chew anything as betel or the like. Never address him without proper titles. For instance, a gentleman named Sir Richard Temple, should never be spoken to as Mr. Temple or so. Never use initials to designate him. If you want leave on the ground of illness, never mention the details of your disorder, but briefly state what it is, for certain words denoting some parts or functions of the body give rise to unpleasant ideas. In places of public resort, do not stand in knots and stare at the passers-by. Beware of prying into things that do not concern you.

As borrowing is next door to begging, avoid taking loans of books or money so long as possible. But if you cannot help it, never fail to return the thing borrowed at the proper time. Cultivate a habit and feeling of independence and learn to rely upon your own exertions. Such a course of conduct will never fail to bring you esteem and make you prosperous and happy throughout your life.



15.—ANCIENT ROME



According to Varro, the city of Rome was founded by Romulus, some 753 years before the Christian era. It was built on the Palatine hill, on the right bank of the Tiber. In the beginning, it contained only a thousand miserable huts. It reached its greatest prosperity in the time of the Emperor Augustus. This monarch said that he found it brick and left it marble. At that time, it had thirty gates. Its circumference within the walls was some 20 miles. It extended over all the seven hills situated in the plain. The principal buildings in the city were, the Amphitheatres, the Capitol, the Forum and the Senate-house. The first amphitheatre could hold two lacs of spectators. The Romans used to take their seats in that edifice and to see in the arena the cruel fights of the gladiators, the exhibitions of strange animals, and the combats of wild beasts. The Capitol was built on the

Saturnian hill, and contained the temple of Jupiter and many other sanctuaries. In the valley between the Palatine and the Saturnian hills, lay the Forum, a place of public assemblage and a great market. It was surrounded by beautiful groves and gardens, and was adorned with numerous statues of eminent statesmen and warriors. It contained the public offices, the halls for the administration of justice, and the rostra, whence public speakers used to harangue the multitude. Above the rostra was the senate-house, where the senators used to convene their meetings for the discussion of public affairs. Another remarkable place was the Campus Marcus. It was used for reviews of troops, election of magistrates and other like purposes. Near it was the celebrated Pantheon or temple of all the gods, which still exists, but in the form of a Christian church. The Apian road, too, deserves especial mention. It was built of square blocks of hard stone and extended over some 350 miles. Many parts of it are still as perfect as they were when made first. There were 21 aqueducts in Rome,

of which three still exist, so that even now no city in Europe has a better supply of fresh water than Rome. The history of Rome is filled with the names of great politicians and warriors who wielded the sceptre of sway from time to time. The most conspicuous among them seems to be Julius Cæsar. He defeated Pompey at Pharsalia. He is said to have conquered 300 nations, taken 800 cities and defeated 3,000,000 of men, of whom 1,000,000 fell in the field. The day he was assassinated by the conspirators, his wife Cleopatra had prohibited him from attending the office, alleging that she had dreamed inauspicious dreams the night before. He had also received some letters from his friends giving him intimation of the danger he was in, but he found no time for their perusal, such being the hurry in which he was persuaded to leave his house. Fate cannot be avoided. He received 23 wounds and expired. Mark Antony inflamed the passions of the populace by a studied harangue. They entered the senate-house in their fury, tore up the benches and burnt them in the funeral pile. Se-

veral houses also were consumed in the conflagration. The conspirators, thinking it advisable no longer to stay at Rome, sought safety in flight.

In the beginning, Rome was a kingdom. Romulus was the first king and Tarquin the last. After this, a republican form of government was introduced into Rome. The Romans waged three wars against the Carthagenians, known as the Punic wars. The first was indecisive. In the second, the Carthagenians were defeated by the Romans under Scipio in the battle of Zama, 202 B. C. In the third, the tables turned in favor of the Romans. Before these wars, the Romans were remarkable for their simplicity, patriotism and moral character. After the Punic wars, they grew licentious and luxurious and hence was their downfall. When a general came back after gaining a victory, triumphal arches were seen everywhere and a grand procession was formed to do him honor. The musicians occupied the van, and the priests mounted on chariots followed them. Then

came the prisoners of war and then the general, attended by the senators and other public officials, and lastly the army with their swords unsheathed. The people of Rome observed a sabbath on the 5th day of the moon and planted their vines on the 7th and 9th days. . . The ancient Romans were very skilful architects and great warriors, but it is uncertain whether they were equally proficient in arts and sciences. No doubt, public orations were the directing rule and moving principle which formed the main prop of reform. Many of the modern nations of Europe have grown out from the dismemberment of the Roman empire and consequently they have a great resemblance to one another in many traits of their character

16.—AN ENGLISH BOARDING SCHOOL AND THE KINDERGARTEN SYSTEM.

The young man who newly joins a seminary of this kind goes by the name of a Freshman in the first year of his admission. He has to go to the superintendent at first, who makes him over to the other teachers with necessary instructions. Then he is informed of the rules and regulations in conformity with which he is required to behave. The chief of these are:—

- (1) To take care never to walk in the streets after dusk without the school cap and gown.
- (2) To be within the school gates by a certain fixed hour.
- (3) To attend the lectures regularly.
- (4) Not to walk on the school grass-plot.

It devolves upon the teachers to pay great attention towards training the moral and physical nature of the young man. Morality forms there a part of religion. Every boy is awakened in the morning by a teacher or by an old woman in waiting. At 6, he is bound to attend the church every day. In default, he is fined a trifle. At 7½ breakfast is served. This done, the boys have to go to the lecture-room and carry on debates in English. The regular business of the day begins at 9 and ends at 2. At 11-15, biscuits and milk are served round. At 11-30, the professors and teachers deliver lectures on history, French literature, piano, singing, dancing, drawing etc. After two recourse is had to the midday meal or lunch. Thereover, all the students have to speak no other language than French or German. Then come the afternoon sports, such as cricket, tennis, riding etc. At half past 4, a cup of tea is served with a slice of bread to every player in the field. At 8-30 the boys come back to their rooms, change their dress and take supper. At 9-30, they retire for

the night. Excursions are often made to visit picture galleries, attend concerts and so forth, which are looked upon as means of culture. There are 14 weeks' vacations in a year, *i. e.* 3 in spring, 7 in autumn and 4 on Christmas. Every boy is expected to act freely according to his personal convictions of right and duty and not to be merely a drift on prevailing currents. Student life in India has no charms whatever but is often monotonous and wearisome, while in the British isles it is all a healthful and happy thing.

To turn to the Kindergarten system—The word Kindergarten means the child's garden. Infant training, or a systematic course of securing an early and gradual awakening of the powers of little children, is the object it has in view. Mr. Froebel, born 1782, died 1852, the son of a German pastor, was the founder of this system. But he was not absolutely its originator. The system is a scheme of organized play, devised and worked out with definite aims. It is founded on a careful study of

the nature and habits of children. Curiosity, activity, change of occupation, love of construction, desire for imitation etc. etc. are the general characteristics of the early age. The materials with which the games and exercises are conducted are called Gifts. Froebel had devised 8 Gifts only, but his disciples increased them to 20. Explanations are given of wholes, and then of parts and still smaller parts. Solids are represented by balls, cubes etc, surfaces by wooden and paper planes, lines by sticks and threads and points by pricking. The chief features of the system are:—

- (1) Nature is taken as a guide.
- (2) Toys are its chief apparatus, play being regarded as the business of a child's life.
- (3) Attention and other powers are absorbed by these means.
- (4) Children acquire habits of prompt obedience and order.

It is a way to prepare a child for school instruction. In after years, both a student and his teacher experience but little difficulty in developing the tender faculties of a young man and making his progress as easy and rapid as possible,



17.—VEGETABLE ANATOMY.

This material world is divided into two parts, animated nature and inanimate nature. All living things belong to the first class, while all inorganic substances not having life, all mineral matter, solid, liquid or gaseous, belong to the second. Animated nature again is divided into two kingdoms, viz. the vegetable and the animal, which form the two sciences of Botany and Zoology. No complete definition has as yet been given serving to distinguish the one from the other. Dr. Lankester gives the difference as follows:—(1) Plants receive nourishment from mineral or inorganic substances, animals from organized bodies. (2) Plants absorb nutriment to a greater or less extent by their whole external surface, while animals possess a mouth and take up their nutriment from an internal bag or stomach. (3) Plants are mostly fixed, while animals have a power of moving about. (4) The tissues of plants are distinguished by their tendency

to absorb carbonic acid and throw off oxygen, while those of animals absorb oxygen and throw off carbon etc. etc.

Plants—There are two kinds of plants, viz. flowering and flowerless. Ferns, mosses, seaweeds, etc., are examples of the latter sort. A plant has three parts, namely; the root or descending axis, the stem or ascending axis and the leaves.

The root—Roots are of two kinds, tap root and adventitious. The first originates as a single root, as carrot, radish, neem, mango, etc. The second consists of numerous independent roots, as barley, bajra, jowar etc. The function of the root is not only that of fixing the plant firm in the ground but also of obtaining nutriment from the soil and often storing up organizable matter for its support. Roots absorb water and other mineral matter dissolved in it from the soil.

The stem—The stem is the ascending axis seeking the light. It is of two kinds, sub-aerial and sub-

terranean. The first is that which rises above into the air. It may be erect, climbing, prostrate or creeping. The second does not rise in the air, but grows in the soil. The size of a stem may be so reduced that it has apparently no existence, or it may attain a height of 200 ft, with a girth of 25ft. *Sequoia Gigantea* is well known as the reputed tallest tree on record, attaining a height of 300 to 330 ft. and a circumference of 80 to 100 ft. One is stated to have been 450 ft. high. This tree belongs to the Deodwar family. The stem of plants is usually round, sometimes square, as also triangular. Some trees have hollow stems and some have buttresses in them. The chief function of the stem is that it is the organ of support of the leaf and flower and conveys nutriment to them from the roots.

The leaf—A typical leaf consists of three parts, viz. (1) the blade or the broader portion, (2) the petiole or the stalk of leaf, (3) the sheath or the lower broader portion which surrounds the stem.

The leaf of the plaintain clearly explains these three parts. As regards its form, a leaf is called simple, as in the peepul, bur etc.; compound as in neem, tamarind etc. The chief functions of leaves are, (1) Transpiration, or the exhalation of vapor from the surface of leaves to keep the contained fluid in the roots of the same density. (2) Assimilation.—Green leaves under the influence of direct sunlight possess the power of absorbing carbonic acid gas from the atmosphere. (3) Respiration.—Plants like animals respire by taking up oxygen from the air and giving off carbonic acid. Plants cannot live without oxygen any more than animals.

The flower.—A typical flower consists of two kinds of organs (1) The protecting organs, consisting of the floral envelopes, (the calyx and the corolla). (2) The male and female organs, (the stamens and the pistil). Some flowers possess both the male and female organs, others one only. Neutral flowers possess neither. Sterile flowers are those that produce no seed. A flower that possesses

all the four organs, namely, the calyx, the corolla, the stamens and the pistil, is said to be complete. The calyx is the outer set of floral envelopes; the corolla is composed of all the leaf-like members between the calyx and the stamens or pistil. They are individually called the petals, in one or more circles. This is generally the showy portion of the flower. The stamens are composed of the male sexual organs of a flower. The pistil is the female or seed-bearing organ and always occupies the centre.

The fruit.—The ovary in the pistil, containing the ovules, when matured, constitutes the fruit. Fruits are of two kinds, viz. dry as barley, pea-pod etc. and succulent as mango, cucumber etc.

The seed.—The seed is the matured ovule. It has also its own covering. The function of the fruit is to disperse seeds, and that of the seeds is to reproduce vegetation. From this it is plain that a plant is not an inanimate body, but has life, as

well as its organs of nutrition and reproduction. It takes its nourishment or the nutritive materials from the soil and from the atmosphere. However, there is one thing which deserves consideration. It is this that the young ones of animals are taken care of by their parents or guardians, but this is not the case with vegetables. The seeds which have been once produced and discharged by their parents are not looked after or cared for by them. Moreover, many of the seeds are eaten by animals, many are destroyed by the action of heat and cold or by forest fires and in this way, their number is very much reduced. But nature has made such a provision for the seeds that notwithstanding all these calamities, they are always on the safer side. The following are the advantages that seeds have over animals (1) Their relative abundance, as in the banian tree. (2) Their relative frequency, as they are produced nearly every year in great profusion. (3) Their size and transportability. They are easily carried off to far distant places by the winds. Birds are also said to take away the

seeds from one continent to another. (4) Their relative vitality. Melon seeds are known to vegetate after 40 years. Seeds capable of germinating are stated to have been found in a Roman tomb fifteen or sixteen centuries old. Seeds have also germinated which were found in a sand-pit 25 feet deep, where they were supposed to have been deposited at least 2,000 years ago. (5) Their relative facility of germination. There are seeds which germinate as soon as they fall from the parent tree, nay, there are also seeds which will germinate even on their parent tree before they fall to the ground, as the seeds of the Rambans. But such is not the case with animals.

PUNDIT RAM NARAIN,
FOREST-RANGER.

18.—ADVANTAGES OF CLUBS.

Clubs are the nurseries of education. We learn here by word of mouth. Men of profound learning and vast and varied experience often join the society and teach us many lessons on general knowledge, in a manner that the explanations they give sink deep into our hearts and are not forgotten perhaps as long as life endures.

We enjoy the company of our bosom friends, which is not a thing of small value. It is said that to live in a prison-house in the company of a friend is more agreeable than to walk alone in a garden. Moreover, physicians are of opinion that if a man, suffering painfully from a certain disease, be, by some facetious tale or a cut of witticism, made to enjoy a hearty laugh, it will contribute much to alleviating the intensity of the sorrows to which he is sadly exposed. In a literary association, we cultivate our views unreservedly, we partake

in warm debates, we enjoy many a sweet smile, which all serve to sweep off from our hearts the unwelcome clouds of worldly anxieties which often mar our tranquillity.

We acquire modesty and humility in discussion in societies. Men who have learnt a little of anything, if left alone, would think too highly of themselves, grow violent and haughty and cast disdainful looks upon the world at large. When they mingle in such gatherings, they come to know that there are personages far more learned and wise than they are; feel ashamed of their deficiency and thus grow modest and humble.

We learn how and where to take our seat in a society, when and how to speak with propriety, when to remain quiet, how to behave decently with our friends in the meeting, and a good many things more which constitute what is called etiquette.

... It is here that we obtain moral strength. Discourses on truth, honesty, righteousness etc. are

painted before our eyes in all their noble and sublime bearings and in all their beauty and excellence. We are naturally drawn to admire them sincerely and to embrace them as our sole guides in all the variety of our future walks of life. On the other hand, vice and sin are represented to us in all their hideous aspects, so that we begin to shudder at their ghastly appearances and leave no stone unturned to extirpate them from our hearts. In short, we become moral beings, obedient to God above and dutiful to man below.

We acquire facility in giving public speeches, which is an accomplishment second to none in importance. We also promote union and friendship, for the members who attend the meeting are men of similar tendencies, and similarity of minds is all over the world a great source of friendship.

In conclusion, public orations have enabled men to accomplish the grandest deeds recorded in the history of the world. hence, clubs may safely be

called the grand markets of wisdom, where a variety of invaluable thoughts and opinions are interchanged, the faculties of attention invigorated and concentrated and the human mind wonderfully polished. Their importance, therefore, can hardly be over-estimated.

19.—TEMPERANCE.



The word temperance, in its general signification, denotes moderation in the indulgence of the natural appetites and passions. In its more restricted sense, it implies abstinence from gluttony and strong drink. It places a good number of invaluable blessings within our easy reach. The world, from its very infancy, has acknowledged its wonderful influence. Our glorious ancestors, the Hindus of olden times, were mostly first-class temperate men. They formed it the basis of their religion. The religion of the Jains, as also that of the Mohamedans, enjoins the same principle. The stoics, the disciples of Zeno, and the Peripatetics of Aristotle, laid equal stress upon cultivating habits of sobriety. The enlightened British people also have many temperance societies established in their country for furthering the same cause. The people of Germany too are behind none in that

respect. In short, the whole world, from the primeval ages of darkness and ignorance down to the modern periods of culture and refinement, has ever recognized intemperance to be the deadliest enemy of mankind. It disqualifies rational beings for the active business of life. It robs them of their health, wealth and prosperity and leads them to the perpetration of misdeeds which humanity will shudder to think of. It will be a sad stigma on the nationality of a Hindu to be other than a pure vegetarian, for alcoholic liquors are condemned by all religions and all nations of the world. No moderation should ever be allowed in their use, for using them in small quantities invariably leads to excess. Temperate men are a blessing not only to themselves but to the whole circle in which they move.


20.—THRIFT.



Thrift is an economical management of property and increase of worldly goods. It can be divided under three heads, viz. Frugality, economy and parsimony. Frugality refers to the act of living within our means, and conveys the idea of rigid habitual saving. Economy requires us to spend what is proper and avoids all waste. Parsimony is intent on too much saving. It is a mean passion. It means to keep the expenses as low as possible, denying oneself even the common enjoyments of life. Wisdom advises us to save, so that we may be able to provide for the rainy day. If we have spare money with us, we can meet all occasions of trouble without fear. Otherwise, we shall be put to the painful necessity of contracting debts, which are very dangerous things in life. A debtor has no respectability. The first sin is to run into debt, and the second is to lie, says an old proverb, also that lying rides on debt's

back. Even a man having the smallest income can save, were he but to spend judiciously. Attention should always be paid to little things. We often say it is but a pice or half a pice, a thing of almost no value, forgetting that drop added to drop makes the ocean and that many a little makes a mickle. Mr. Smiles says that neglect of little things is the rock on which the majority of the human race have split. Man's life consists of small events, each of which is comparatively insignificant, and yet the happiness and success of mankind depends upon the manner in which these small events are dealt with. In order that we may get on well in this world, it is necessary for us to spend less than what we earn, to reserve at least a third portion of our income for future use, to make ready money payments in the purchase of articles, to keep a regular account of our income and expenditure and never to suit our expenses to anticipated incomes. Samuel Johnson says that thrift is the daughter of prudence, the sister of temperance and the mother of liberty. A man who, after satisfying

his wants, has something to spare, is no longer poor. Economy produces a well-regulated mind, puts the passions under control, removes all cares and anxieties and is an unfailing source of boundless comfort and ease. It is a sad thing that our country men spend enormous sums of money in giving luxurious dinners, heedless of the fact that 'who dainties love, shall beggars prove'. In short, a thrifty man has all the world's joys at his command and is honest, industrious and independent, whereas a spendthrift is a curse to the noble nature of man.



21.—ASTRONOMY.

The word astronomy is derived from the Greek, astron, a star and nomas, a law. In its literal sense, it is that science that unfolds to us the laws of the stars. Hence, this science treats of the heavenly bodies, their motions, distances, periods of revolution, order, magnitude and the causes of their various phenomena. Astronomy is generally dealt with under two heads, viz. physical and plane or practical. The former treats of the causes of the motions of the celestial bodies, the relation of the laws that govern them with those that are observed on the earth, and their structure or formation, shapes, sizes and other physical properties of the like kind. Practical astronomy teaches us how the movements of the heavenly bodies may be made subservient to the interests of mankind. Other branches of astronomy have given rise to such names as mathematical astronomy,

spherical astronomy and so forth. The stars on the whole are evidently far more numerous than all the orbs that compose the solar system. The sun itself which is about 500 times as large as the 200 and odd planets that revolve round it, is a small star, the star that is nearest the earth, for it has been calculated that many stars which to the naked eye appear like specks are many times larger in volume than this great luminary of ours. Hence the subject of the stars in Astronomy is of primary importance. All stars are not of equal brightness. According to the degree of their light, they are divided into classes. These classes are termed magnitudes by astronomers. A very brilliant star is called a star of the first magnitude, that next to it, a star of the 2nd magnitude and so forth. The number of stars of all magnitudes visible to the naked eye is about 6,000. Telescopic observation increases the number of the stars. Recent astronomers have estimated that nearly 60 crores of stars can be photographed by the method of astronomical photography. By means of the

measurement of the brightness of stars, there have been found 20 stars that are most brilliant. The star Sirius, called in Hindi 'Shikari Tara' is the brightest in the heavens next to the sun, which is the nearest and the most brilliant star, as seen by us from the earth. Light travels at the rate of 186,828 miles per second. Sunlight reaches the earth in 8 minutes and 12 seconds. The distance of Sirius, in light units, is 8.6 years from the earth, of a star of the 1st magnitude, $15\frac{1}{2}$ years, of a star of the second magnitude, 28 years, and of a star of the 12th magnitude, 3,500 years. There is a very large telescope in one of the observatories of America, through which the moon, which is about 240,000 miles distant from us, appears at a distance of some 78 miles only. Hence it may be inferred that the stars are very large in magnitude and that they are self-luminous bodies; for, if their light be a borrowed one, it will never reach us. Each star may easily be supposed to be a solar system in itself. Astronomers are of opinion that this is the most probable hypothesis. A beautiful river

or belt of white light crosses the sky and winds among the stars. It is sometimes so situated that it divides the heavens into two equal halves. This beautiful belt or river is called the Milky way. It is composed of numberless small or faint stars. The number of stars is the greatest near the Milky way. In one place, the Milky way divides itself into two branches. Our sun is situated somewhere near that point. Again, the stars are divided into groups, called constellations. The zodiacal group consists of 12 stars. These are:—Aries the ram, Taurus the bull, Gemini the twins, Cancer the crab, Leo the lion, Virgo the virgin, Libra the balance, Scorpio the scorpion, Sagitarious the archer, Capricornus the goat, Aquarius the water-bearer, and Pisces the fish. Though the stars retain the same relative position as they did when created, they are all really moving. In some of the nearest, this motion is perceived and even measured. Our earth moves some 1,000 times faster than an ordinary train. The sun moves at the rate of about 4 miles per second. On account of this real motion, the

sun is not now where it was about 2 or 3 thousand years ago. Formerly it was on the sign Aries the ram, but now it is on Piscés the fish. It is about 9 crores and 30 lacs of miles distant from the earth. Nearly 13 lacs of earths can be formed from the volume of the sun. The weight of the sun is about 3 lacs and 30,000 times that of our earth. There are big spots in it which move but not in any fixed direction. The area of the sun is about 2 billions and 284 thousand millions of square miles. The moon is a satellite of the earth. Astronomers say that there are mountains, valleys and sandy plains in it and that its hills and dales reflect less light than its plains of sand. According to Copernicus, there are volcanoes also in the moon. The first elementary knowledge of the celestial bodies was learnt from the Rig Veda. Afterwards, astronomy became a separate science. Among us, the most renowned works on astronomy are 18, called the Siddhants of India. Some of the famous astronomers were Parasara, who was the most ancient, Vyasa, Surya, Narada, Gargacharya who flourished

probably in the 1st century B. C., Arya Bhut in 500 A. D. and Bhaskarcharya in 1,200 A. D. Arya Bhut had discovered the revolution of the earth on its own axis. The modern great astronomer of India was Bapudeo. The first European who carried on researches in the Mathematics and astronomy of India was Colebrooke, who was of opinion that the Hindus had begun to cultivate astronomy as far back as 1,400 B. C. The great European astronomers are Ptolemy of Greece, Hipparchus, Copernicus of Prussia, who discovered the revolution of the sun, moon and the earth, Galileo who found out the Milky way, Sir Isaac Newton, Laplace, Herschel etc. It is probable that astronomy rose out of astrology. A conception had ripened among the people that future events might be foretold by eclipses, meteors etc. Hence the attention of inquisitive souls was directed to the observation of these marvellous celestial bodies. The science of astronomy is the only science that gives us the grandest and the sublimest ideas of the Godhead.

PUNDIT HARI NARAIN B. A.

22.—INDIA BEFORE THE MOHAMEDAN PERIOD.

The history of India may be divided into Indian political life and political death, or India before and after the Mohamedan period. Ancient India again may be divided into five grand epochs, viz. (1) The settlement of the Aryans in the tracts watered by the Indus and its five tributaries, (2) Their settlement in the Gangetic valley, (3) Their spread in the east, (4) The Buddhist period, (5) The Pauranic age, from the time of Vikramaditya. But we have no regular history of each period. However, it is a false accusation that India had no history of its own. It has a history in its sublime literature. The Ramayan and the Mahabharata are living testimonies of the achievements of our great Aryan forefathers. Besides, there are several facts which plainly show that the Aryans could not be ignorant of the simple art of writing.

the annals of their country. These may be stated as follow:—(1) There are the poems composed by the great bard of Prithvi Raj, named Chand, who refers to similar other works that have not come down to us. These bardic poems were nothing but history in an undeveloped form. (2) In the 7th century A. D., a great traveller from China visited India. He was a Buddhist priest and his name was Hiouen Thsang. He was a profoundly learned scholar. He stayed here for some 15 years and devoted much of his time to the study of Sanskrit. This great traveller alleges that there were government functionaries here whose principal duty was to write the narratives of events. These were called Nilopata or blue collections and were kept with other government records. (3) Abul Fazl, the prime minister of Akber the great, is said to have written a history of Ancient India. Now, whence could that great writer gather the materials for his work, had there been no annals of India before the Mohamedan conquest. From these facts we come to conclude that our ancestors

did write histories, but they have been most probably lost in the course of the numerous revolutions and convulsions through which our country has passed from time to time. However, we learn from different sources that the ancient Hindus were a great and glorious people. They had made a wonderful progress in literature, arts and sciences. They were very proficient in geometry and trigonometry. They were the inventors of Algebra, and had made great progress in chemistry. They were also great in war, but above all, they were singularly great in morals, for they were a remarkably truthful people. Arrian, the Indian historian of Alexander the great, says in his Indica, 'The Hindus may be fickle, they may be volatile, but they never knew what fraud was'. The great Chinese traveller alluded to above, confirms this statement when he says that 'No Hindu was ever known to tell an untruth.' We may therefore safely say that if it is next to impossible for us to be equal to our forefathers in the different branches of knowledge, it requires no

great stretch of intellect on our part to hate a lie and love the truth. A truthful man shines on this earth like the grand luminary overhead and needs no other passport to entitle him to the everlasting happiness of heaven.



23.—GREATNESS.

Greatness is often said to be an attribute of princes and potentates that have shaken the foundations of the globe with their heroic deeds. But men who have spurned at the wealth and aggrandisement of this world, who have sacrificed their best interests to the service of their country, or have devoted their lives to the making of wonderful discoveries in the regions of science and thus done immense good to the world at large by bestowing everlasting benefits upon the whole human race, do also deserve to be called great and rather truly so. Spinoza, one of the greatest philosophers that Europe ever produced during the last two centuries, declined to accept the high pensions that were offered to him, but devoted his best energies to his philosophical researches, and gained his livelihood by grinding object-glasses. The Roman farmer, named Cincinnatus, when requested by his countrymen to serve as a general

on the occasion of a certain battle, accepted the offer, headed the army, vanquished the foe and then resumed his plough. Our illustrious Vikram often used to wander in the forests, under the scorching rays of the sun, to see if any of his subjects did not fare well. Characters like the above are instances of true greatness. But it is a sad thing that the world often gives a bad reception to such noble personages who devote their heart and soul to reforming and regenerating the human race. The far famed Socrates of Athens, who was, so to say, a personification of wisdom and virtue, was declared to be an evil-doer and a corrupter of youth and was condemned by an ungrateful people to end his life by poison. Roger Bacon, a monk who flourished in the 12th century A. D. received a similar treatment. He worked bravely with mathematical and optical instruments. He invented a machine in which all air could be withdrawn and living things fell dead. He framed little glasses, oval in form, which made small objects appear far larger than their true size. He mixed

a powder, which when set on fire, blazed like a volcano and produced a noise like thunder. He composed a book in which he stated that it was possible for man to walk at the bottom of the sea, to transmute iron, brass, copper etc. into gold, and to propel carriages with a velocity far greater than that of steam. For such inventions and opinions he was pronounced to be a magician and a wizard and put in confinement till crippled with the infirmities of age.

Another great man who suffered for his eminence was Galileo. He constructed an instrument which magnified the size of distant objects by more than a thousand-fold. He composed a dialogue on the systems of Ptolemy and Copernicus. The former taught that the earth was stationary, and the sun, moon and planets, all moved round it, while the latter maintained that the earth and all the planets revolved round the sun. Galileo supported the views of Copernicus. For this reason, he was declared to be an irreligious man who cherished

heretical opinions. He was imprisoned and released only when he made an outward confession recanting his belief in the theory of Copernicus. Christopher Columbus also met with no better treatment. His many successes made him many foes. False accusations were fabricated against him. He was charged with arrogating a princely dignity over the American Indians and of embezzling money from the public treasury, so his house and property were all confiscated and he was put in chains. Shankaracharya, who defended the Vedic religion against the impositions of Buddhism, had poison administered to him. Our most esteemed and beloved reformer of modern times, Swami Dayanand Saraswati, is also said to have died of the same cause. Envy, hatred and malice, have always joined against such noble souls, though they have ever tried to elevate humanity from the mire of ignorance and degradation. Nothing can be sadder than to reflect that such bad treatment has often been meted out to persons who have been the noblest and the truest benefactors of mankind.

24.—LABOR.

Every human being, from the prince to the common day-laborer, is expected to participate in his own share of labor. An idle hand sucks the life-blood of human society and proves a poison to all our comforts on earth. A Chinese emperor used to say that if there is a man who does not work or a woman who is idle, somebody must suffer from hunger or cold in the empire. The baneful influence of idleness affects the whole circle of a community. An idle brain is truly said to be the devil's workshop. While the whole of nature, animate or inanimate, is constantly in action, it would be very sad if man alone remain idle or do nothing to the purpose. Well, in the eye of a political economist, land, labor and capital, are indispensably necessary for the production of wealth. Labor is absolutely needed for that purpose. The utilities fixed and embodied in materials are rendered suited to the requirements of life by labor. Labor

may be divided under two heads, productive, directly or indirectly, and unproductive. An agriculturist lays out ten seers of corn in the cultivation of a field and reaps some ten maunds or even more from his outlay. A policeman is a proper safeguard to the life and property of the people in general. A trader conveys goods from one place to another for distribution and exchange. These, therefore, are instances of labor directly productive. The labor of a school-master is indirectly productive, for the result of his work does not directly contribute to the wealth of a country. In short, labor that has before its view the increase of national wealth, is productive. Unproductive labor annihilates wealth. It gives no return whatever. The immense sums of money spent in different kinds of luxuries are all instances of unproductive labor. There is also productive consumption and unproductive consumption. The food given to laborers is an example of the first, that given to beggars, of the second. If the laborers were to drink wine or indulge in other luxuries, that will

also fall into the sphere of unproductive consumption. Superior strength and stamina, education and skill, energy and intelligence, create a great difference in labor. It is because of these qualities that an English laborer is said to be equal to two Frenchmen, three Russian serfs and perhaps four Indian laborers. Labor, if judiciously divided, produces invaluable advantages. Adam Smith in his 'Wealth of nations', lays much stress upon this question. For instance, the manufacture of a pin is divided into some 18 different processes such as drawing, cutting, sharpening etc., the result whereof is that if one man were to work alone, he would hardly be able to prepare 10 pins a day, while by dividing the work into distinct branches, 10 men can make some 50,000 pins a day. Mr. Say, a French political economist speaks of there being some 72 different operations in the manufacture of playing cards, so that 30 workmen can make 15,500 cards a day, while the same number of men cannot manufacture more than 40 or 50 cards a day, if working separately.

In addition to effecting an immense increase in the wealth of a country, this division of labor causes three things more to be acquired, viz. dexterity from continuous practice, invention of machines and saving of time otherwise spent in passing from one business to another. Mr. Babbage attaches to it a fourth advantage, that of the classification of laborers. But comparatively speaking, it is not so important as the others. Again, labor is single combined or co-operative and complex combined or co-operative labor. Two men working at the same oar in a vessel are an instance of the former, while the labor of the different men engaged in the production and manufacture of cotton, is included in the scope of the latter. The greatest objection raised against this division of labor is that the skill of a workman is dulled by always continuing in one and the same groove of business. But it is no objection worth the name, for a dull man must always remain as such, in whatever occupation he is. In short, a political economist has his attention always absorbed in increasing

the national wealth. He abhors indulgence in voluptuousness. Consequently, some persons call this science a hard-hearted and selfish science, but it is their mistake to entertain such ideas, for, it is by this science alone that every one can live with ease and comfort, and can easily maintain the poorer classes of a community.

GULAB CHAND DHADDA M. A.



25.—EXERCISE AND HEALTH.

One is said to be healthy when each organ of his body is performing its natural duty. When a man is sick, his daily wages are stopped, his family is in great trouble, accumulated money is lost, in addition to the intense pain to which he is exposed. It is his paramount duty, therefore, to take great care of his health. The chief requisites of health are,—pure air, pure water, plain diet, proper rest, exemption from care, and exercise, such as walking, riding, different kinds of gymnastics, swimming, boating, etc. The importance of pure air cannot be overestimated. The qualities of pure water are that it is colorless, tasteless and without any kind of smell. Wells should be well protected, for the surrounding dirt and filth penetrate into the earth and settle in the water. Water filtered or strained with charcoal is also good for drinking. We ought to use plain and nourishing food, to take meals at fixed hours, to

abstain from all food when the bowels are constipated, to sleep, in the case of adults, for not more than 8 hours or less than 6, to bathe with cold water, excepting children, the old and the sick, to wipe the body with a coarse dry cloth after bathing, to clear the house everyday, to cover the face while sleeping, if it is exposed to cold draughts of air, and to abstain from overmuch brain-work. Sunlight also is essential for our houses, for it is justly said that where light cannot enter, the doctor must. Both the mind and the body must be in a sound state, for there is a natural connection between the two, so that if the mind is suffering from the storms of this life, the body seldom fares well, and similarly, if the body gets disordered, the mind grows weak and drooping. Excess in eating or drinking is also poisonous for the system. When the far-famed Nausherawan of Persia asked his vizeer as to what it was that contributed most to the promotion of health, he replied that much exercise and little food were necessary for that purpose. It is also said that a certain king sent a physician to one of his

distant villages, for looking after the sanitation of that locality. As soon as the medical man reached his destination, he asked the villagers as to how they were getting on. They replied that they never ate till they were hungry and then not to repletion. Hearing this, the physician said that he would at once retire from amongst those people, as his presence was not needed in a place where the residents behaved in such a noble way.

In short, of all the various comforts and pleasures we enjoy on earth, nothing is so valuable as the comforts of a healthy constitution. To a sickly person, wealth and all that it can give, are rather the sources of sorrow than the means of affording him any comfort or consolation. A poor penniless man, who is hale and hearty, is far happier than a valetudinarian prince or potentate. Nothing can be so important, therefore, as to have a full knowledge of the laws that govern health and to act in conformity with them with the greatest strictness.

26.—TIME.

Time is a relative term. Its correlative is change. We can have no notion of time unless we have change. Anything that is universal and incomprehensible, vast and infinite, is unchangeable and is not subject to time. While things that are local and special, limited and finite, are subject to the conditions of time and space. According to Mr. Locke, a succession of ideas in the mind gives us a notion of time, while according to the ancient Vedic theory, it is the sun that originates the idea. The days and nights, the seasons, rains and dearths, growth and decay are all brought about by the sun. This great luminary is said to be constantly changing in heat. It has been radiating heat all around into space. This gradual diminution of solar heat will continue almost down to the cooling of the sun. The astronomers Newcombe and Halden are also of opinion that the beginning of the earth cannot much exceed 20,000,000 years.

and it must end in a chaos of cold, when the sun and stars will have radiated away all their heat. The time that the radiation of the solar heat takes is called by the Vedic Rishis a day of Brahma. By Brahma they meant the sun. A single day of Brahma is equal to 4,320,000,000 years of our calculation. Well, time and eternity are opposed to each other. Time is for this world. It does not last. It is mortality, while eternity is the reverse. The one is a question of life and death, the other a problem of life and immortality. The distinction of light and darkness, virtue and vice, happiness and misery, exists in time and not in eternity. Time is for mortals, eternity for divine beings. Time is a great gulf that separates humanity from divinity. Man's life is short at the longest. It consists of 777,600,000 breaths, if he were to live for a hundred years. These breaths form our richest treasure. Not a single one should be wasted, for when gone, no amount of gold can call it back again. Queen Elizabeth, when on her death-bed, cried out, "Millions of money for one inch of

time". But the time was gone. Cato, the Censor, a wise and virtuous Roman, used to say that there were three actions of his life which he always regretted, viz. (1) that he revealed a secret to his wife, (2) that he once went by sea when he ought to have gone by land, (3) that he spent a day in doing nothing. There is perennial sacredness in work, as Carlyle has justly observed. A man that actually and earnestly works has his heart always enlivened by hope, while in idleness there is perpetual despair. But we ought not to give our whole time to mere worldliness. Our sacred book, the Gita, says that a man ought to live in this world like a lotus flower, which grows in water but is not moistened by it. In like manner, man must have his hands for the world and his heart for God. Nothing can be sadder than to reflect that he is wholly and solely engrossed in making provisions for his sojourn below, whereas he has no care as to his requirements for the home where he has to live for ever. Let us, therefore, catch time by the forelock and devote some portion of it

at least to the service of our Divine Maker. We must also keep death before our view at every moment. It is said of a certain monarch that he had a servant whose only duty was daily to stand early in the morning outside the sleeping room of the sovereign and exclaim, 'Remember, prince, that thou art soon to die'. This fact shews that the remembrance of death at least once a day has the effect of imprinting upon our hearts the utter hollowness and vanity of this world and of turning our attention to the remembrance of our only true friend and protector, our Infinite Creator.

PUNDIT GOFI NATH JOSHI.



27.—READING.

Books are the repositories of the collected experience of ages. It is by reading them that we can know all about the innumerable inventions and discoveries made in times past or present, all about the mighty souls that have gone before us, making the world far better and nobler than before. By this means we can also know our religion and our God and obtain salvation. Before the art of printing was invented, books were so scarce that ambassadors were sent from France to Rome for a copy of Cicero de oratore and Quintilian's Institutes, because there were no such books in the whole of France. Before 1300 A. D., there were very few books in the library of Oxford, which were carefully shut up in a small chest or tied with a chain lest somebody should take them away. The library of the bishop of Winchester consisted only of 17 books on different subjects. When the

latter once borrowed a Bible from a friend of his, a bond was duly drawn that he would return it uninjured. When a book was bought or sold, it was a rule to call many persons of distinction together as witnesses. Albert, abbot of Gemblours, had with great difficulty gathered 150 books in his library. A man who possessed half a dozen books was thought to be a personage favored of fortune. Men who had a thirst for knowledge had often to go to distant lands to hear the lectures delivered by some profoundly erudite scholar. Yet, with all that scarcity of books, there were in those days men who greatly surpassed us in knowledge and wisdom. We cannot write poetry like Homer, nor history like Thucidides. It was because the ancients thoroughly read the few books they had and digested all that they read. Hence, the fewer the number of good books with us and the more carefully we read them, the better will be the result. All distinguished men have been given to the habit of constant reading. It is said of Brutus that on the eve of the great

battle of Pharsalia, which decided the fate of the then known world, he was absorbed in taking down notes from his author. 'Reading', says Bacon, 'makes a full man, conversation, a ready man, and writing an exact man.' Apart from all considerations of wealth, rank or power, reading is its own reward. The perusal of a philosophic writer fills the mind with raptures which no language can describe. The masters of ancient wisdom wipe away from our hearts all sordid ambition for the bubbles of this perishable world. It is a hollow wit that leaves connection with books along with its connection with some seminary of education. A passion for reading must be made the part and parcel of our very soul, for it is utterly impossible to arrive at any remarkable degree of distinction without this noble habit.

28.—FREDERIC THE GREAT, KING OF PRUSSIA.

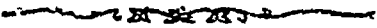


Frederic the Great was born on the 24th January, 1712, at noon; and was coronated on the 2nd June, 1740. He was called Water Fritz or father Fred by his subjects, who cherished a great love and esteem for him. In his early years he was fond of music, light literature, good wine, good cookery and so forth. He often spoke highly of peace, liberty, moderation etc., and so people concluded that he would turn out a sensual and intellectual voluptuary. Nobody had the least idea that he would prove a first class military and political genius, and one of the most hard working men that ever lived in this world. The expectations of his young age suffered a bitter disappointment in him. They had hoped that their prosperity would date from the time their patron would occupy the throne. The sharp admonition gives

by Frederic to one of them was 'No more of these fooleries'. From that moment, the poor fellows gave up all their long cherished hopes of greatness. Frederic was taught from his very infancy that nothing but the sword could confer honor upon a prince. At 14, he was a captain, at 15, a major, and at 16, a lieutenant-colonel. He stood on his duty for hours together like a common soldier. The result of this was that he became a great warrior and made wars against Austria, Saxony, Russia etc., in all of which he got the upper hand of his enemies. His kingdom being comparatively small, it could not well bear the too heavy expenses of his large army. He therefore exercised great frugality in nearly all his dealings. His judges and fiscal officers were meanly paid. His ministers at foreign courts walked on foot. He curtailed every item of expenditure to the lowest possible point. He was a man of extraordinary labor. He was his own minister, his own commander-in-chief, his own treasurer etc. He trusted nobody. All his officials from the highest to the lowest had

no powers of any kind. They were as mere clerks. If a traveller wanted a good place to see a review, he had to write to Frederic, and received, next day, an answer signed by the king himself. He had four secretaries, who, poor men, never had a holiday, who never knew what it was to dine, who had to work from morning till night as negroes in the time of the sugar-crop and who were strictly ordered never to stir from their place until they had finished the whole of their work. In his time, there was great liberty of speaking and writing. One day he saw a crowd of men staring at something posted high up on a wall. He came to know that it was a scurrilous placard against himself. He at once ordered his men to put it a little lower so that the people might read it freely, observing, 'My people and I have come to an agreement that satisfies us both. They are at liberty to say what they please and I am at liberty to do what I please'. He was fond of cutting severe practical jokes and had also the bad habit of kicking and cudgelling like his father. However,

he was an extraordinary man, a soldier as well as a statesman. His people were much attached to him and called him great, and the title was well deseryed.



29.—THE HOLI FESTIVAL.

The four Varanas, which are the four grand divisions of the Hindu community, have festivals peculiar to each. For the Brahmans is the last day of Shravan i. e. Rakshyabandhan, for the Kshatryas is the Dasehra, for the Vaishas the Dipmalika and for the Shudras the Holi. But as the four classes have been living together for hundreds and thousands of years, each has begun to participate in the rejoicings of the other. We call Holi as appropriated to the Shudras, but we do not know its why.

As regards its origin, it is said that there existed at Multan, in times immemorial, a Rakshas Raja, who had two sons, named Hirankashyapa and Hirañnyaksh. These energetic brothers spent much of their time in very austere devotions, with the aim of attaining matchless courage, which was accordingly bestowed upon them as a reward for their sincere penances, so that neither in day nor

in night, by none born of woman and by no weapon whatever, could they ever be overpowered and killed. With this boon in his possession, Hiran-kashypa, the elder brother, on his accession to the throne, began to exercise great tyranny and spread terror over the earth. Meanwhile, a son was born to him whose name was Prahlaḍ. The young prince was in due time sent to the seminary of instruction, but he was incorrigible in the extreme and did not learn a single letter. His whole time was spent in repeating the name of Ram. When his father heard the unwelcome news, his anger knew no bounds, for he cherished an inveterate antipathy against Maharaja Ram Chandra. Being resolved to put an end to the life of such an unworthy son, he caused him to be thrown before a mad elephant, and then hurled down from a mountain, but all to no effect. He left no stone unturned to realize his object but in vain. At last, his wicked sister, whose name was Holika, and who professed to be a magician, declaring that she was invulnerable in fire, seated the prince in her

lap, caused herself to be surrounded with large quantities of fuel and then ordered it to be burnt. She thought that by means of her magic power, she would in no way be affected by fire, while her nephew would be burnt alive. But the scales of fortune were turned. Divine love reversed the spell. The ruthless witch was burnt to ashes, whereas the holy Prahlad came out of the destructive element fresh as out of a bed of flowers. Great were the rejoicings among those who loved Prahlad and his Omnipotent saviour, and so they decided upon commemorating this mysterious event with like signs and ceremonials. This fact gave rise to the custom of fixing a big branch in the ground representing Prahlad and surrounding it with fuel and rushes and setting it on fire, then taking out the branch, and leaving the twigs etc. which impersonate Holika, to be burnt to ashes. In the meantime, men, women and children, who gather together on the spot, sing merry songs at the top of their voices and beat drums and sometimes play upon other musical instruments. This

appears to be the origin of the Holi festival and the public rejoicings during the latter days of Phalgun.

There is also another narrative of the origin of the Holi Festival. It is that in times of yore, there existed a female Rakshisi, named Dhunda, who was in the habit of annually frequenting the habitations of men and devouring their children. To ward off this evil monster, people went to a Rishi and expressed their grievances to him. The sage advised them to hurl down showers of stones, dust, mud and water on her when she made her appearance amongst them, beat drums and tambourines and sing obscene songs. The order was literally obeyed and so the object was happily won, for the Rakshisa, on receiving this evil treatment, fled away at once and was seen no more. All were thus safe, but they had recourse to the same practices every year, for fear lest the cruel monster should again appear in their midst. In course of time, the custom got a firm hold on the minds of

the people and led to the establishment of the Holi Festival and the ceremony of the so-called Dhoond. Hence it is that people sprinkle dust and water in the latter days of Phalgun and sing obscene songs.

The change of the seasons also is a great impulse to buoyancy of spirits. The severity of winter is as painful here as the burning days of summer. We dislike both and as the month of Phalgun is midway between these extremes, and as its last days are peculiarly temperate and mild, they are therefore very pleasant and agreeable. For this reason, people may have fixed upon these days to gather together and celebrate their festivities in common, in such a fine and pleasant season. This fact also has contributed no less to the celebration of the Holi Festival.

Again, this festival is said to have a three-fold origin, viz. (1) The religious, (2) The semi-religious and (3) The natural. The safety of

Prahlad from fire and the public rejoicings, form the religious factor of the ceremony, as is recorded in the Narsinha Pauran and the Prahlad Natak. The singing of obscene songs and uttering of unchaste language as a preventive against evil influences, constitute the semi-religious element, as is written in Nirnaya Sindhu and Dharmā Sindhu. The approach of the new year and the charms of the spring season impel men to feel mirth and joviality, and this forms the natural origin of the festival prevalent amongst us.

There is still another version of the Holi Festival. A banker had a fair daughter named Holika, whose fame spread far and wide in the country. A certain gallant Rajpoot heard the intelligence, soon came to her residence and eloped with her. For fear of shame, the girl's party set fire to her wooden palace and declared that she was burnt in the fire. The inhabitants of the town expressed great sympathy for the sad bereavement of the banker, and as the latter was

a money-lender or Bohra, they mourned over his loss by the exclamations of 'Haya Bohraji!' 'Haya Bohraji!' i. e. woe! woe! to you, mr. creditor.

The expression 'Haya Bohraji' can also have another signification. The month of Phalgun being the harvest time, debtors may laugh at their creditors by thinking of the coming crops and cry out, 'Haya Bohraji,' meaning thereby that it was a sad day for the latter, as he would suffer much in losing all his authority over the former, who would soon be able to liquidate all their debts, and thus getting rid of him, enjoy the blessings of independence.

Some people are of opinion that in ancient times boys were examined in the last week of Phalgun or Holashtaka. The examinees were awarded four colors, red, blue, etc. according to their merits and hence originated the use of powder in the Holi days.

To conclude:—It appears plain that this festival

is a religious one. The spring season, when nature clothes everything with fresh life and charms, and the prospect of the ripe crops, the moderation of cold and heat etc. etc., all contribute to creating feelings of unbounded joy in the human mind and so, indulgence in mirth and merriment is something natural and must in no way be discouraged. But the worst element in the occasion is the unchaste language, the unholy songs, the use of intoxicating drugs and alcoholic liquors, and the throwing of stinking mud and dirty water. Common sense dictates that these practices are repugnant to the sensibilities of an educated and refined society and must be eradicated as soon as possible.

SECRETARY.



30.—A VOYAGE TO LONDON.

Travelling in India is quite a different thing from travelling in the western countries. In India, we want bedding with us, a water-pot, a covering, cooking utensils and so forth, but no such provisions are necessary in a voyage to Europe. There is neat and nice bedding in the steamer. Two blankets are provided in winter for covering one's self at night. New sheets are brought every week by the steward. Bottles full of water and several glasses are put in each cabin, and only two suits of clothes are sufficient for the whole journey. Of course, as soon as the passengers reach Europe, they have to put on a new suit and lay aside their old apparel, otherwise they are to run the risk of being hooted and hissed by groups of children. The steward is the man who is in charge of the cabin and in P. and O. Steamers, is generally a Eurasian. His duty is to clean the cabin and the boots, to supply water-

glasses and new towels and to wait at the table. The usual food for a vegetarian is porridge or dalia, mixed with milk and sugar, and bread, butter, potatoes, rice, dal etc. There is much sea-sickness, to prevent which to a certain extent, it is necessary never to keep the stomach empty. At night, the waves dash against the ship and the phosphorous thus produced blazes like sparks of fire. Recourse is had to different kinds of amusements for beguiling time in the steamer. There is also a library from which any one can have books issued to him on payment of a shilling or two for the whole voyage. Most of the passengers are often on the look-out for other steamers, for some two or three are seen every day passing by their vessel. The steamer reaches the Arabian coast on the fifth day. Not a single blade of grass is to be seen on the hills. The coast is very barren. A curious spectacle is to be seen here. Numbers of Somali boys reach the ship and pray the passengers to have a dive from them. If the men in the ship throw a two-anna piece or a pice into the wide

ocean, the boys at once dive into the waters and soon come up with the money in their hand. The coast of Arabia is nearly $1\frac{1}{2}$ miles from the place where the steamer stops. On account of the water being shallow, ships cannot go to the shore. Boats are therefore used for post and other purposes. On leaving Aden, one has to pass through the Straits of Babel-mandeb and then reach Perim, round which there are two passages, viz. one between Perim and the African coast on the west, and the other between the said island and the Arabian coast on the east. The steamer enters the Red Sea and then reaches Port Suez and having passed through the canal which is nearly 87 miles long, she arrives at Port Said. Here, the vegetation on the Egyptian side is very stunted. People from different parts of the world are seen at this Port. Hence the traveller reaches Brindisi in 3 days' time. He leaves Brindisi by train, reaches Ancona and passes through the heart of Italy. This peninsula is deservedly called the granary of Europe. Besides grain, vines, olives,

lemons etc. grow there in great abundance. Even the tops of hills are not left uncultivated. He then goes to Turin, beyond which one of the tunnels is eight miles long. The Express train never stops except at the big stations. Thus the passenger reaches Calais, and then having crossed the English Channel he goes to London, a distance of 65 miles, in $1\frac{1}{2}$ hours nearly. At first, he is sadly disappointed at the sight of the eastern part of that city of world-wide renown, for the buildings from outside are all dirty and black and very closely built. The grandeur and vastness of the city, its traffic, commerce and people, its arrangements by which every thing goes on quietly and smoothly, without any hindrance or confusion, reflect great credit on the noble race of men that inhabit those distant shores. In 1,666, there was a great fire that reduced the whole town to ashes, but the conflagration proved rather good for London, for, after the fire, the city was laid out with a regular plan. Its present area is 120 square miles, with a population of nearly five millions, or

about double the whole of the Jaipur State. The area of the city of London is 1 sq. mile only. Nearly 30 lacs of men pour into the city every morning. At night, these three millions have to go out within some 2 or 3 hours. The communication is conducted by underground railways, upper ground railways, busses, tramways and cabs. The hurry, bustle and noise of London, are beyond description. The railways run every five minutes from station to station. The smoke of hearths, chimneys, and railways, have given a dull and ugly appearance to the city. All the buildings are black on the outside. But as soon as you enter a house, you find it so neat and clean that nothing like that can be seen in India. Steamers from different parts of the world daily enter the ports of England. The coast appears like a forest of sailing vessels and steamers. In fact, there is no part of the world which sends nothing to London and vice versa. Most of the steamers cast anchor at the ports, but some of them also come directly to London. They can not pass beyond the London

bridge. The chief inhabitants of the town are the Anglo-Saxons. They possess such qualities as were found in the Indians in the time of the Ramayan and the Mahabharata. As soon as you tell them that you are a stranger, everybody will be ready to help you. All of them are properly educated. Education is compulsory there. There is no man, woman, boy or girl that cannot read and write. Their honesty is undoubted. They are always busy. They devote their leisure hours to the study of some useful book or newspaper. Even a cobbler's boy is careful not to lose a single minute. Every man can discuss on science, philosophy and politics. When the members of a family sit together, you will be astonished to find that little children of 7 or 8 years of age can tell causes of natural phenomena, which even our graduates cannot. The English at home have the welfare of the people of India at heart. They treat us in a manner that no Indian will ever treat his brother in that way. They are very kind and hospitable. If you once form acquaintance with

them, they will invite you to dinner. The proper time for conversation is evening, when they devote some $1\frac{1}{2}$ or 2 hours to talking on such useful subjects that when you hear them, you will think yourself sitting in a circle of philosophers.

Among the public buildings, the Houses of Parliament in which the Peers and Commons hold their meetings for nearly 7 months in the year and decide national questions, have been pulled down and reconstructed several times. This building is situated to the west of the city on the bank of the Thames. At the entrance of the edifice is a great hall which has perhaps the largest roof in the world. It leads to another hall by a flight of stairs. Just below the staircase is a block of polished brass, on which are written words signifying that there stood Charles I when tried by the people of England and condemned to die. This shews the independence and the real power of the mighty British nation. Passing the stairs, there are the statues of all the great statesmen, such as

Robert Peel, Burke etc. Then there is a round hall, on the right of which is the House of Lords and on the left, the House of Commons. The speaker's seat in the latter house, which is something like a throne, is in the front, on the right of which sit the members of Government or ministers and on the left the members of the opposition. The Peers can send back a bill passed by the Commons. If the Commons send it once more for sanction and the Lords send it back again, Parliament is dissolved and the question is discussed by the whole nation. The members are newly elected. The ministers have to resign at once. The next building worth notice is the Westminster Abbey. It is one of the oldest buildings of England. Kings, queens, statesmen, great poets etc. were interred there and honored with a suitable monument. Another magnificent building is the Tower of London. It is said to have been built in the time of William the Conqueror. It is passed by several gates, after which comes the court-yard of the castle, where Henry VIII had his wife executed

and Mary, queen of the Scots, shared the same fate. Traitors and state prisoners who were confined there left behind some sign or other, in the form of Latin verses, Greek proverbs, or their own names, engraved upon the walls. The other buildings worth note are, St. Paul's church, the British Museum, the National Gallery, the Albert Hall, the theatre and the Imperial Institute. The largest and most famous of the parks is Hyde Park. It contains green fields, and is lined on both sides by trees. It also contains a canal, called the Serpentine, where boating is a favourite pastime in summer and skating in winter. The nobility and the gentry, in their best apparel, and seated in their best carriages, use to spend their evenings in that delightful place. The next is the Regents' Park. It is rather a Zoological garden. Different kinds of birds, quadrupeds, and reptiles, are to be seen there. There is also a big cricket field. The Kensington gardens, where the late Empress of India was born, are also worth being seen. They contain statues of many noted men.

Lastly are the Kew gardens which contain different kinds of plants in big hot-houses. Plantains, bamboos etc. grow there in great luxuriance.

To be brief, the great metropolis is replete with innumerable things of interest, so that it is impossible for a sojourner to dwell upon them at full length.

R. N. RATNOO.
